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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/615,801

07/10/2003

Hiroyasu Sato

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21369 7590 12/14/2006

POSZ LAW GROUP, PLC  
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EXAMINER

TOOMER, CEPHIA D

ART UNIT

PAPER NUMBER

1714

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/615,801

Applicant(s)

SATO, HIROYASU

Examiner

Cephia D. Toomer

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 26 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 26, 2006 has been entered.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 is rejected because it is not clear what "containing substantially no water emulsion fuel" means. Does this language mean that the mixing tank contains no emulsion or that water is substantially absent. Clarification is required.

Claim 4 is rejected because the claims fail to recite where in the process the water emulsion fuel is formed.

Claim 4 is rejected because step (e) recites separating the mixture solution in the mixing tank and forming a water rich portion, but there is no mention in step (f) of what

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happens to the water rich portion. Furthermore, it is not clear what "forming a water rich portion there of" means.

Applicant's explanation of what happens to the water rich portion is not supported by claim 4. Only the mixture solution is emulsified. How is there "relatively more water" when Applicant does not add more water to the mix?

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cemenska (US 5,873,916).

Cemenska teaches a fuel emulsion blending system comprising a plurality of fluid circuits, a hydrocarbon circuit, a fuel emulsion additive circuit and a water circuit (see abstract). The first fluid circuit 16 transporting the hydrocarbon fuel and the second fluid circuit 20 adapted for supplying the fuel additives are coupled together and subsequently mixed together using a first in-line mixer 46. The resulting mixture of hydrocarbon fuel and fuel additives is then joined with a purified water stream supplied via a third fluid circuit 50 and subsequently mixed together using a second in-line mixer 52. See col. 3, lines 25-32 and Fig. 1.

As indicated above, the purified water from the third fluid circuit 50 is joined with the hydrocarbon fuel and fuel additive mixture and subsequently re-mixed using the second in-line mixer 52 or equivalent blending station equipment. See col. 3, lines 58-62.

The resulting mixture or combination of hydrocarbon fuel, fuel emulsion additives, and purified water are fed into an emulsification station 70. The emulsification station 70 includes an aging reservoir 72 and high shear mixing apparatus. See col. 3, lines 63-67. This teaching suggests the claimed step of reducing the cluster sizes of the fuel and water.

Cemenska teaches the limitations of the claims other than separating the mixture solution in the mixing tank and forming a water rich portion thereof, and emulsifying the mixture solution from the mixing tank through the processing means and returning the mixture solution to the mixing tank (claim 4).

Since it is not clear what happens to the water rich solution of claim 4 and claim 5 teaches that the water rich solution is pumped through the processing means, it appears that Cemenska's aging reservoir is where the mixing solution and water rich portion would eventually end up. Since Applicant teaches that the mixture solution goes through the processing means and the water rich portion is pumped through the processing means it would be obvious to one of ordinary skill in the art that two portions would be fed to the aging reservoir.

Applicant's arguments have been fully considered but they are not persuasive.

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Applicant argues that Cemenska fails to teach at col. 4, lines 1-6 that the use of an aging reservoir functions in the same manner as the mixing tank contemplated by Applicant.

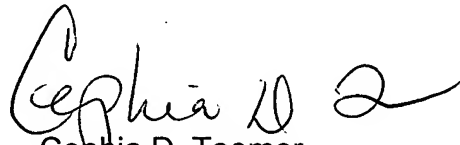
Cemenska's emulsification station contains an aging reservoir wherein the fuel, additive and water mixture are retained for a prescribed duration. The reservoir appears to serve the same purpose as Applicant's second use of the mixing tank, i.e., step (f) "returning the mixture solution to the mixing tank."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cephia D. Toomer whose telephone number is 571-272-1126. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Cephia D. Toomer  
Primary Examiner  
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